

Amendments to the Specification:

Please replace the paragraph beginning at page 6, line 7, which starts with "Figs. A-F" with the following amended paragraph:

Figs. ~~3A-F~~ 3A-D are cross-sectional schematic diagrams illustrating the steps of a process making spin valves with low and stable coupling field according to a third embodiment of the present invention;

Please replace the paragraph beginning at page 9, line 1, which starts with "An ion beam sputtering method" with the following amended paragraph:

An ion beam sputtering method may be used to produce spin valves of the types depicted in Figs. 1 and 2 to easily control the deposition between wafers or within a wafer. An exemplary sputtering method is disclosed in US. Pat. No. 5,871,622 issued Feb. 16, 1999 and U.S. Pat. No. 5,492,605 issued Feb. 20, 1996 by the inventor. Figs. ~~3A-F~~ 3A-D are cross-sectional schematic diagrams illustrating the steps of making spin valves of the types depicted in Figs. 1 and 2. As shown in Fig. 3A, a first ferromagnetic layer 304 is deposited on a substrate 302 in a vacuum chamber. First ferromagnetic layer 304 may be a free layer for a top spin valve or a pinned layer for a bottom spin valve. A first oxygen burst is introduced in to the vacuum chamber with oxygen partial pressure of about 5×10^{-6} Torr. A first surface 305 of the first ferromagnetic layer 304 is exposed to this oxygen-rich atmosphere. Oxygen molecules are directed toward the substrate 302 and the substrate shutter, which is not shown in Fig. 3A, is fully open to directly expose first surface 305 to the oxygen. As a result, oxygen is physisorbed on the first surface 305 to produce a first ~~oxygen~~ oxygen treated surface 306.